Function Test Report

EMX-945GSE-A1-DVIR

Report Date : 22-Jan-09

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Approval	Tester

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Model	EMX-945GSE-A1-DVIR
Description	Mini iTX Intel 82945GSE GMCH / ICH7
PCB version	1
BIOS version	945BAV11.BIN
CPU Type	Intel Atom N270 1.6GHz
Memory type and size	Kingston DDRII 677 1GB
Backplane	N/A
Power supply	Seventeam ST-420BKV-03F 420W
HDD Model/Spec	Seagate ST380013A
CD-ROM Model/Spec	ASUS 52X CD-S520X

$$Lx = Lo \times 2^{(To - Tx)/10} \times 2^{(\Delta To - \Delta Tx)/5}$$
$$= Lo \times 2^{(105 - Tx)/10} \times 2^{(8 - \Delta Tx)/5}$$

Where: Lx = Lifetime (hours) of the capacitor to be estimated
Lo = Base lifetime (hours) of the capacitor described in the specification sheet
To = Maximum rated operating temperature
Tx = Actual ambient temperature (°C) of the capacitor within device (This is not the environment temperature of the device, but the environment temperature of the capacitor that has been placed within the device.)
ΔTo = Rise (°C) in core temperature of the capacitor due to rated (permissible) maximum ripple current.

$$\Delta Tx = (Ts - Tx) \times Kc$$

Where: Ts = Surface temperature (°C) of the case
Tx = Actual ambient temperature (°C) of the capacitor
Kc = Coefficient standing for the ratio of the ΔTx to the (Ts - Tx)
For the Kc's, refer to the table below.

Kc :

Capacitor diameter (mm)	ϕ5~ϕ8	ϕ10	ϕ12.5	ϕ16	ϕ18
Kc	1.10	1.15	1.20	1.25	1.30

OS	Windows XP+SP3_EN
Benchmark	3DMARK 2003+KPOWER*2

Measure in chamber 60℃

ROOM																								
27.7℃	CE58	CE69	CE62	CE63	CE64	CE47	CE49	CE45	CE15	PCE2	PCE1	PCE4	PCE3	PCE8	PCE7	CE74	CE55	CE71	PCE16	CE75	PCE10	PCE18	CE73
Ts(℃)	45.00	48.40	51.30	52.60	50.70	45.60	48.60	42.50	49.30	47.40	47.90	46.90	50.40	50.40	46.50	45.10	45.30	46.10	39.20	39.50	38.60	42.80	39.50
Tx(℃)	43.00	46.40	49.30	50.60	48.70				47.30								43.30	44.10	37.20				
Lo(hours)	4000	4000	4000	4000	4000	2000	2000	2000	4000	2000	2000	2000	2000	2000	2000	2000	4000	4000	4000	2000	2000	2000	2000
Kc	1.10	1.10	1.10	1.10	1.10				1.10								1.10	1.10	1.10				
ΔTx(℃)	2.20	2.20	2.20	2.20	2.20				2.20								2.20	2.20	2.20				
Lx(hours)	433534	342509	280139	256000	292036	1866509	1321387	2667043	321795	1517155	1432287	1607052	1074064	1074064	1682790	1977106	424612	401707	648067	3767298	4178592	2576499	3767298
Life(years)	**49.49**	**39.10**	**31.98**	**29.22**	**33.34**	**213.07**	**150.84**	**304.46**	**36.73**	**173.19**	**163.50**	**183.45**	**122.61**	**122.61**	**192.10**	**225.70**	**48.47**	**45.86**	**73.98**	**430.06**	**477.01**	**294.12**	**430.06**
Result																							

MB Chamber																							
60℃	CE58	CE69	CE62	CE63	CE64	CE47	CE49	CE45	CE15	PCE2	PCE1	PCE4	PCE3	PCE8	PCE7	CE74	CE55	CE71	PCE16	CE75	PCE10	PCE18	CE73
Ts(℃)	77.00	79.00	79.10	80.40	81.30	77.40	77.70	75.70	81.20	80.10	79.20	77.20	77.10	78.50	78.50	79.90	74.30	82.20	77.40	79.90	80.10	78.00	71.00
Tx(℃)	75.00	77.00	77.10	78.40	79.30	75.40	75.70	73.70	79.20	78.10	77.20	75.20	75.10	76.50	76.50	77.90	72.30	80.20	75.40	77.90	78.10	76.00	69.10
Lo(hours)	4000	4000	4000	4000	4000	2000	2000	2000	4000	2000	2000	2000	2000	2000	2000	2000	4000	4000	4000	2000	2000	2000	2000
Kc	1.10	1.10	1.10	1.10	1.10				1.10								1.10	1.10	1.10				
ΔTx(℃)	2.20	2.20	2.20	2.20	2.20				2.20								2.20	2.20	2.20				
Lx(hours)	47177	41070	40786	37271	35017	47977	46348	58349	35261	35158	38997	49094	49663	42270	42270	35977	56886	32900	45887	35977	35158	44774	100237
Life(years)	**5.39**	**4.69**	**4.66**	**4.25**	**4.00**	**5.48**	**5.29**	**6.66**	**4.03**	**4.01**	**4.45**	**5.60**	**5.67**	**4.83**	**4.83**	**4.11**	**6.49**	**3.76**	**5.24**	**4.11**	**4.01**	**5.11**	**11.44**
Result																							

ROOM													
25.1℃	PQ167	PQ1	PQ3	PQ4	PQ5	Q54	Q70	Q69	PQ162	PQ160	PQ161	Q64	Q63
SPEC	175.00	150.00	175.00	175.00	125.00	150.00	175.00	175.00	175.00	175.00	175.00	125.00	125.00
Ts	43.10	54.70	51.30	52.00	62.60	48.40	46.30	44.40	44.90	44.90	45.30	58.50	46.90
SPEC - Ts	131.90	95.30	123.70	123.00	62.40	101.60	128.70	130.60	130.10	130.10	129.70	66.50	78.10
Result													

Chamber													
61.4℃	PQ167	PQ1	PQ3	PQ4	PQ5	Q54	Q70	Q69	PQ162	PQ160	PQ161	Q64	Q63
SPEC	175.00	150.00	175.00	175.00	125.00	150.00	175.00	175.00	175.00	175.00	175.00	125.00	125.00
Ts	77.30	89.80	86.50	86.30	92.10	83.10	85.20	83.20	84.70	82.90	83.50	82.40	86.40
SPEC - Ts	97.70	60.20	88.50	88.70	32.90	66.90	89.80	91.80	90.30	92.10	91.50	42.60	38.60
Result													

ROOM											
25.1℃	CPU	NB	SB	LAN1	LAN2	Audio	SIO	Clockgen	PU8	U35	U61
SPEC	90.00	105.00	100.00	70.00	70.00	70.00	70.00	70.00	100.00	70.00	85.00
Ts	58.80	53.80	55.30	54.10	55.20	64.10	50.90	69.70	48.70	48.30	49.30
SPEC - Ts	31.20	51.20	44.70	15.90	14.80	5.90	19.10	0.30	51.30	21.70	35.70
Result											

ROOM				Tj	Tj						
61.4℃	CPU	NB	SB	LAN1	LAN2	Audio	SIO	Clockgen	PU8	U35	U61
SPEC	90.00	105.00	100.00	125.00	125.00	70.00	70.00	70.00	100.00	70.00	85.00
Ts	82.60	82.70	87.10	82.30	81.90	90.50	75.90	95.40	81.20	78.50	80.30
SPEC - Ts	7.40	22.30	12.90	42.70	43.10	-20.50	-5.90	-25.40	18.80	-8.50	4.70
Result											

Model	**EMX-945GSE-A1-DVIR**
Description	**Mini iTX Intel 82945GSE GMCH / ICH7**
PCB version	**1**
BIOS version	**945BAV11.BIN**
CPU Type	**Intel Atom N270 1.6GHz**
Memory type and size	**Kingston DDRII 677 1GB**
Backplane	**N/A**
Power supply	**Seventeam ST-420BKV-03F 420W**
HDD Model/Spec	**Seagate ST380013A**
CD-ROM Model/Spec	**ASUS 52X CD-S520X**
Product Phase	
Produced by	
Test Item	**Battery**
Problem category	
Issue date	**2009/1/22**

For 30ppm, freq 14.31818MHz oscillator to calculate Str.

$$\varepsilon = 30 \times \frac{1}{10^6} \times 14.31818 \times 10^6 = 429.5454 = 0.0004295454 \times 10^6$$

$$14.318180 \times 10^6 \pm 0.0004295454 \times 10^6 = 14.3186095454 \ ,14.3177504546$$

$$Str = 14.3186095454 \sim 14.3177504546$$

Item	Comment	details		Result	Note
Battery leakage	No power	measured (uA)	3.9		test at room temperature
		Calculated (Year)	6.439487179	**Pass**	
Timer	System timer	RTC1.exe	< 2 sec/day	**2**	test at room temperature
	RTC timer		< 2 sec/day	**1**	test at room temperature
	32.768KHz	32768~32767	32,768.264,7	**Pass**	
	14.318MHz	14318609 ~ 14317750	14.318,467,8	**Pass**	

Model	**EMX-945GSE-A1-DVIR**
Description	**Mini iTX Intel 82945GSE GMCH / ICH7**
PCB version	**1**
BIOS version	**945BAV11.BIN**
Product Phase	**Design , Pilot , Finished , ES**
Produced by	
Test Item	**General Performance**
Problem category	**Software compatibility**
Issue date	**2009/1/22**

	DS3630-945GSE		
CPU	**Intel ATOM N270 1.6GHz**		
Memory	**Kingston DDRII 667 512MB**		
VGA	**Onboard**		
SATA HDD	**Seagate ST3250410AS**		
CD ROM	**ASUS DRW-1814BLT**		
Installation Driver	**Intel 82945GSE**		
	IGMA 950		
	Realtek ALC888		
	Realtek RTL8111C		
O.S.	**Windows XP Profession w/SP3 , 1280 ×1024 in 32bit colors**		

System Performance (with IDE HDD)			
Item	**Comment / (unit)**	**Software**	**Score**
Overall system	Multimedia C.C. Winstone 2004-scores / (Winstone units)	Multimedia C.C. Winstone 2004 version 1.0.	**13.7**
	Business Winstone 2004-scores / (Winstone units)	Business Winstone 2004 version 1.0.1	**12.6**
CPU	CPU Arithmetic Benchmark- Dhrystone (GIPS)	Sisoft Sandra standard 2008.1.12.34	**3.84**
	CPU Arithmetic Benchmark- Whetstone iSSE3 (GFLOPS)	Sisoft Sandra standard 2008.1.12.34	**3.35**
Memory	Memory Bandwidth Benchmark-Int Buff'd iSSE2 / (GB/s)	Sisoft Sandra standard 2008.1.12.34	**2.76**
	Memory Bandwidth Benchmark-Float Buff'd iSSE2 / (GB/s)	Sisoft Sandra standard 2008.1.12.34	**2.39**
Disk	File System Benchmark-Drive Index / (MB/s)	Sisoft Sandra standard 2008.1.12.34	**65.97**
Graphics	High-End Graphics Winmark 99	WinBench 99 Version 2.0	**441**
	Business Graphics Winmark 99	WinBench 99 Version 2.0	**186**
Disk	High-End Disk Winmark 99 / (Thousand Bytes/Sec)	WinBench 99 Version 2.0	**29300**
	Business Disk Winmark 99 / (Thousand Bytes/Sec)	WinBench 99 Version 2.0	**7540**
Disk	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.1.0 free	**126.8**
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.1.0 free	**64.9**
Graphics	3DMark	3DMark03 Pro version 3.6.0	**718**
System score	PC Mark 2005	PC Mark 2005 120	**1637**
CPU score			**1500**
Memory			**2386**
Graphics			**574**
HDD			**5119**

SATA Performance			
SATA HDD	**Seagate ST3250410AS SATA 250GB**		
Item	**Comment / (unit)**	**Software**	**Score**
Single HDD (SATA I)	Long bench(32mb zones)-Random access / (ms) (smller is better)	HD Tach version 3.0.1.0 free	**14.9**
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.1.0 free	**5**
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.1.0 free	**64.9**
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.1.0 free	**126.8**
Single HDD (SATA II)	Long bench(32mb zones)-Random access / (ms) (smller is better)	HD Tach version 3.0.1.0 free	**15.3**
	Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better)	HD Tach version 3.0.1.0 free	**5**
	Long bench(32mb zones)-Average read / (MB/s)	HD Tach version 3.0.1.0 free	**64.8**
	Long bench(32mb zones)-Burst Speed / (MB/s)	HD Tach version 3.0.1.0 free	**128.9**

USB Performance				
USB device				
Software	**Comment / (unit)**	**connector**		**Score**
HD Tach version 3.0.1.0 free	Long bench(32mb zones)-Burst Speed / (MB/s)	USB1	**Transecond JF T3 2GB**	**19.7**
		USB2		**19.7**
		USB3		**19.5**
		USB4		**19.5**
		USB5		**19.7**
		USB6		**19.7**
	Long bench(32mb zones)-Average read / (MB/s)	USB1	**Transecond JF T3 2GB**	**18.9**
		USB2		**18.9**
		USB3		**18.5**
		USB4		**18.5**
		USB5		**18.7**
		USB6		**18.7**

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Description	**Mini iTX Intel 82945GSE GMCH / ICH7**
PCB version	**1**
BIOS version	**945BAV11.BIN**
CPU Type	**Intel Atom N270 1.6GHz**
Memory type and size	**Kingston DDRII 677 1GB**
Backplane	**N/A**
Power supply	**Seventeam ST-420BKV-03F 420W**
HDD Model/Spec	**Seagate ST380013A**
CD-ROM Model/Spec	**ASUS 52X CD-S520X**
Product Phase	
Produced by	
Test Item	**Power Consumption**
Problem category	**Function**
Issue date	**2009/1/22**
Testing Software	**1. KPower and 3D graphic both supported: KPower + 3DMark 2003**

****If LAN is on board function, all LAN ports have to connect to a switch HUB through CAT5e LAN cable, but don't need to do data transfer, or through a cross over cable connect two LAN ports is acceptable**

	Voltage	Power on - Boot sequence	Max load	Idle Mode	Result	Note (Testing Software)
Power consumption (A or mA)	12V	1185mA	1253mA	643mA		
	5V	1323mA	1420mA	482mA		
	3.3V	801mA	804mA	506mA		
	5VSB	483mA	783mA	398mA		

Power on - Boot sequency: *Measure the maximum current value of between system power on and boot-up to O.S.*

Max. load: *Measure the maximum current value which system under maximum load (CPU: Top speed ,RAM & Graphic: Full loading)*

Idle mode: *Measure the current value when system in windows mode and without running any program*

USB current measurement with dummy load

Ports	Voltage (4.80v~5.00v)	Current (480mA~500mA)	Power off	Result	Note
USB1	5.13v	503mA	5.06v	**Pass**	On board
USB2	5.13v	503mA	5.06v	**Pass**	On board
USB3	5.13v	506mA	5.06v	**Pass**	On board
USB4	5.13v	505mA	5.06v	**Pass**	On board
USB5	5.13v	487mA	5.06v	**Pass**	By cable
USB6	5.13v	487mA	5.06v	**Pass**	By cable

USB power check (measurement and record)

Ports	S5 (first plug power)	S5	S3	S1	Result	Note
USB1	0v	5.06v	5.08v	5.11v	**Pass**	On board
USB2	0v	5.06v	5.08v	5.11v	**Pass**	On board
USB3	0v	5.06v	5.06v	5.11v	**Pass**	On board
USB4	0v	5.06v	5.06v	512.v	**Pass**	On board
USB5	0v	5.06v	5.06v	5.12v	**Pass**	By cable
USB6	0v	5.06v	5.06v	5.11v	**Pass**	By cable

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CPU Type	**Intel Atom N270 1.6GHz**
Memory type and size	**Kingston DDRII 677 1GB**
Backplane	**N/A**
Power supply	**Seventeam ST-420BKV-03F 420W**
HDD Model/Spec	**Seagate ST380013A**
CD-ROM Model/Spec	**ASUS 52X CD-S520X**
Product Phase	
Produced by	
Test Item	**AC97 Quality**
Problem category	**Function**
Issue date	**2009/1/22**

Test item	Result	Remark
Driver installation	Pass	
CD-IN	Pass	
SPDF OUT	Pass	
Play DVD	Pass	
Volume control (Left /Right speaker check)	Pass	
Play WAV files	Pass	
Play MP3 files	Pass	
Play MIDI files	Pass	

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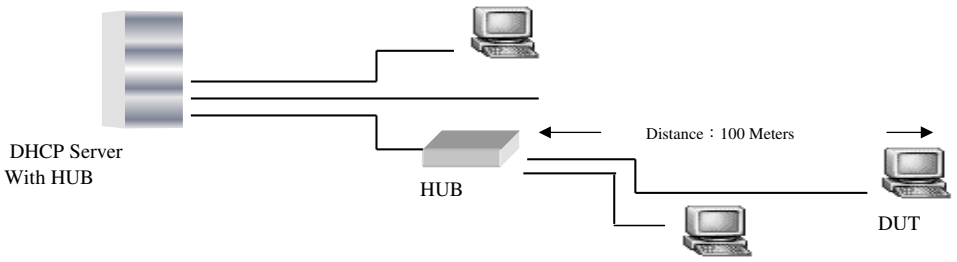
Backplane	N/A
Power supply	Seventeam ST-420BKV-03F 420W
HDD Model/Spec	Seagate ST380013A
CD-ROM Model/Spec	ASUS 52X CD-S520X
Product Phase	
Produced by	
Test Item	LAN Quality
Problem category	Function
Issue date	2009/1/22

LAN LED Indicators check

LED Indication	Condition	Status	Result
LINK	On	The port has established a valid network connection.	Pass
(Orange 10/100)	Off	The port has not established any network connection.	Pass
Link	On	The port has established a valid network connection.	Pass
(Green 1000)	Off	The port has not established any network connection.	Pass
ACT (Yellow)	Off	No any data through the port.	Pass
	Blinking	The port is receiving or transmitting data.	Pass

Item	ACPI mode	LAN
MS-DOS 6.22	S5	Pass
Win2000 WOL Test	S1	Pass
	S3	Pass
	S4	Pass
Win XP WOL Test	S1	Pass
	S3	Pass
	S4	Pass

Check Item			Result
DOS ODI	LAN		NA
Boot ROM	LAN	RPL	NA
		PXE	Pass
Cable length test (Upstream/Downstream data over 1GB concurrently)	LAN	3m cross-over cable	Pass
		100m cross-over cable	Pass
NetIQ Chariot 4.3 Throughput	LAN	Maximum	800.008Mbps
		Minimum	17.391Mbps
		Average	680.356Mbps
Auto negotiation	LAN	10 full	Pass
		10 half	Pass
		100 full	Pass
		100 half	Pass
		1000 full	Pass



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HDD Model/Spec	Seagate ST380013A
CD-ROM Model/Spec	ASUS 52X CD-S520X
Product Phase	
Produced by	
Test Item	VGA Quality
Problem category	Function
Issue date	2009/1/22

VGA Quality

Resolution / Refresh Rate Check

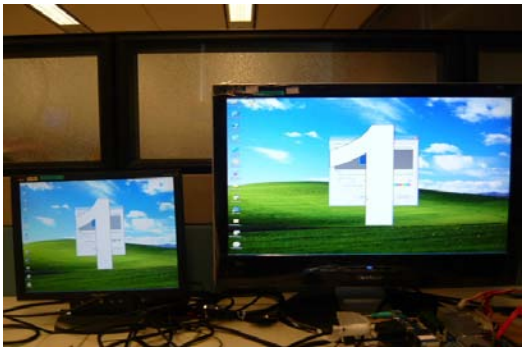
Check Item	Resolution	Colors	V-Frequency	Result	Remark
	800 x 600	High/True	60、75、85、100、120	Pass	
	1024 x 768	High/True	60、75、85、100、120	Pass	
	1152 x 864	High/True	60、75、85、100	Pass	
	1280 x 600	High/True	60	Pass	
	1280 x 720	High/True	60、75、85、100	Pass	
	1280 x 768	High/True	60、75、85	Pass	
	1280 x 960	High/True	60、75、85	Pass	
	1280 x 1024	High/True	60、75、85、100、120	Pass	
	1400 x 1050	High/True	60、75、85	Pass	
	1600 x 900	High/True	60、75、85、100	Pass	
	1600 x 1200	High/True	60、75、85、100	Pass	
	1856 x 1392	High/True	60、75	Pass	
	1920 x 1080	High/True	60、75、85、100	Pass	
	1920 x 1200	High/True	60、75	Pass	
	2048 x 1536	High/True	60	Pass	

VGA Diagnostic Test

Check Item	OS	Result	Remark
3DWinBench 2000	Win XP	Pass	
3D Game 3hrs	Win XP	Pass	

VGA Display extended mode

Check OnBoard VGA with DVI



Check OnBoard VGA with LVDS

Check OnBoard DVI with LVDS

Driver feraure check

Check Item	OS	Result	Remark
Rotation	Win XP	Pass	
Color Correction	Win XP	Pass	

Init Display First selection

Initial Display First	OS	Result	Remark
PCI slot	MS-DOS	Pass	
PCI slot	Windows 2000	Pass	
PCI slot	Windows XP	Pass	

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HDD Model/Spec	**Seagate ST380013A**
CD-ROM Model/Spec	**ASUS 52X CD-S520X**
Product Phase	
Produced by	
Test Item	**BIOS Test**
Problem category	**Function**
Issue date	**2009/1/22**

Test Item		Result	Note
Standard CMOS Features			
System Time	Time	**Pass**	System time should be within the margin of Spec.
System Date	Date	**Pass**	System date should be within the margin of Spec.
Holt on test	All error	**Pass**	All errors found should halt on with warning.
	No error	**Pass**	No any error need to warning and halt.
	All, but Keyboard	**Pass**	All errors found should halt on with warning except keyboard.
Advanced BIOS Features			
CPU Feature	Daelay Prior to Thermal	**Pass**	
	Limit CPUID MaxVal	**Pass**	
	C1E Function	**Pass**	
	Execute Disable Bit	**Pass**	
Hard disk boot priority		**Pass**	Boot Device auto detection.
Virus Warning	Enabled/Disabled	**Pass**	
CPU L1/L2 cache	Enabled/Disabled	**Pass**	Bus and APIC should work normally
Hyper-Threading Technology	Enabled/Disabled	**Pass**	
Quick Power On Self Test	Enabled/Disabled	**Pass**	Enable/Disable this item should work normally
Boot Sequence Test	First Boot Device	**Pass**	System should boot to 1st boot device
	Second Boot Device	**Pass**	System should boot to 2nd boot device if 1st boot fail
	Third boot Device	**Pass**	System should boot to 3rd boot device if both 1st and 2nd boot fail
	Boot Other Device	**Pass**	System should boot to 3rd boot device if both 1st and 2nd and 3rd boot fail
Boot Up Num Lock Status	On/Off	**Pass**	Enable/Disable this item should work normally
Gate A20 Option	Normal/Fast	**Pass**	Bus and APIC should work normally
Typematic rate setting	Enadbled/Disabled	**Pass**	
Security option	Setup	**Pass**	Password check should work normally
	System	**Pass**	
APIC Mode	Enabled/Disabled	**Pass**	Bus and APIC should work normally
MPS Version Control For OS	1.1 / 1.4	**Pass**	
Small Logo(EPA) Show	Enadbled/Disabled	**Pass**	

Advanced Chipset Features			
DRAM Timing Selectable	SPD/Manual	Pass	DIMM timing control, all options should work normally.
SLP_S4# Assertion Width	1 to 2 Sec / 2 to 3 Sec / 3 to 4 Sec / 4 to 5 Sec	Pass	
System BIOS Cacheable	Enabled/Disabled	Pass	Bus and APIC should work normally
Video BIOS Caxheable	Enabled/Disabled	Pass	Bus and APIC should work normally
Memory Hole At 15M-16M	Enabled/Disabled	Pass	
On-Chip Frame Buffer Sixe	1MB	Pass	Should be work normally
	8MB	Pass	
DVMT	Fixed	Pass	Select DVMT / FIXED / Both Mode
	DVMT	Pass	
	Both	Pass	
DVMT/FIXED Memory size	64MB	Pass	Select DVMT / FIXED Mode Memory Size
	128MB	Pass	
	224MB	Pass	
Boot Display	Auto	Pass	Select Out boot display mode
	CRT	Pass	
	LFP	Pass	
	CRT+LFP	Pass	
	EFP (DVI)	Pass	
	CRT+EFP (DVI)	Pass	
Panel Number	800x600 18bit	Pass	Select Panel type
	800x600 18bit *2	Pass	
	1024x768 18bit	Pass	
	1024x768 18bit *2	Pass	
Integrated Peripherals			
IDE HDD Block Mode	Enabled/Disabled	Pass	
IDE DMA transfer access	Enabled/Disabled	Pass	
On-Chip Primary PCI IDE	Enabled/Disabled	Pass	
On-Chip Secondary PCI IDE	Enabled/Disabled	Pass	
On-chip Serial ATA selection	Disabled	Pass	Select IDE and SATA Mode
	Auto	Pass	
	Combined Mode	Pass	
	Enhanced Mode	Pass	
	SATA Only	Pass	
SATA port speed setting	Disabled	Pass	Select SATA Speed Mode, GEN 1-SATA 1.5Gb / GNE 2-SATA 3Gb
	Force GEN I	Pass	
	Force GEN II	Pass	
Azalia Audio Select	Enabled/Disabled	Pass	Enabled/disable audio should work normally
Audio Amplifier	Enabled/Disabled	Pass	Disabled/Enabled Amplifier
Amplifier Gain(dB)	15.3~31.8 dB	Pass	
Onboard LAN1 Device	Enabled/Disabled	Pass	
Onboard LAN2 Device	Enabled/Disabled	Pass	
POWER ON Function	Password / Hot key / Mouse Left / Mouse Right / Any KEY / Button only	Pass	Select Power on Mode
On-board Serial port 1	Disabled	Pass	Serial port should work normally.
	3F8/IRQ4	Pass	
	2F8/IRQ3	Pass	
	3E8/IRQ4	Pass	
	2E8/IRQ3	Pass	
	Auto	Pass	
On-board Serial port 2	Disabled	Pass	Serial port should work normally.
	3F8/IRQ4	Pass	
	2F8/IRQ3	Pass	
	3E8/IRQ4	Pass	
	2E8/IRQ3	Pass	
	Auto	Pass	

Power Fail	Off	Pass	Different POWER fail setting should work normally
	On	Pass	
	Former status	Pass	
Onboard Lan1 Boot ROM	Enabled/Disabled	Pass	
Onboard Lan2 Boot ROM	Enabled/Disabled	Pass	
Watch Dog Timer Select	Enabled/Disabled	Pass	
On-board Serial port 3	Disabled	Pass	Serial port should work normally.
	3F8/2F8/3E8/2E8	Pass	
	IRQ3/IRQ4/IRQ10/IRQ11	Pass	
On-board Serial port 2	Disabled	Pass	Serial port should work normally.
	3F8/2F8/3E8/2E8	Pass	
	IRQ3/IRQ4/IRQ10/IRQ11	Pass	
Security chip configuration			
TPM Support	Enabled/Disabled	Pass	
TPM Status	No Change	Pass	
	Clear	Pass	
	Enabled & Activate	Pass	
	Deactivate & Disable	Pass	
Power Management Setup			
ACPI Function	Enabled/Disabled	Pass	Enable/Disable this item should work normally
ACPI suspend type	S1(POS)	Pass	Set all available suspend stage and should work.
	S3(STR)	Pass	
	S1&S3	Pass	
Run VGABIOS if S3 Resume	Auto	Pass	
	Yes	Pass	
	No	Pass	
Power Management	User Define	Pass	
	Min Saving	Pass	
	Max Saving	Pass	
Video Off Method	Blank Screen	Pass	
	V/H STNC+Blank	Pass	
	DPMS	Pass	
Video Off In Suspend	Yes/No	Pass	
Suspend Type	Stop Grant/Pwron Suspend	Pass	
Modem Use IRQ	NA/13/4/5/7/9/10/11	Pass	
Suspend Mode	Disabled/1/2/4/8/12/20/30/40Min/1Hour	Pass	
HDD Power Down	Disabled/1/2/3/4/5/6/7/8/9/10/11/12/13/14/15Min	Pass	
Soft-off by PWR-BTTN	Instant off	Pass	Press power button should meet mode setting.
	Delay 4 sec	Pass	
Wake up by PCI card	Enabled/Disabled	Pass	Enable/Disable this item should work normally
Power on by Alarm	Enabled/Disabled	Pass	Enable/Disable this item should work normally
USB KB wake up from S3	Enabled/Disabled	Pass	Enable/Disable this item should work normally
Resume by Alarm	Enabled/Disabled	Pass	
PnP/PCI Configurations			
Init display first	PCI Slot	Pass	Set VGA output priority both by PCI and on board VGA.
	Onboard	Pass	
Reset Configuration Data	Enabled/Disabled	Pass	
Resources Controlled	Auto/Manual	Pass	Both auto or assign IRQ to PCI should work normally.
PCI/VGA palette Snoop	Enabled/Disabled	Pass	Palette snoop should not cause any failure
Maximum Payload size	128/256/512/1024/4096	Pass	

PC Health Status			
Shutdown temperature	60℃/140℉	Pass	
	65℃/149℉	Pass	
	70℃/158℉	Pass	
	Disabled	Pass	
CPU Warning temperature	Disabled	Pass	Select CPU Warning temperature for MAX
	50℃/122℉	Pass	
	53℃/127℉	Pass	
	56℃/133℉	Pass	
	60℃/140℉	Pass	
	63℃/145℉	Pass	
	66℃/151℉	Pass	
	70℃/158℉	Pass	
Current System Temperature		Pass	M/B temperature should close to real measure.
Current CPU1 Temperature		Pass	CPU temperature should close to real measure.
CPU FAN Speed		Pass	Chassis fan speed should close to real measure.
System FAN Speed		Pass	CPU fan speed should close to real measure.
Vcore		Pass	CPU Vcore voltage should be in CPU Vcore define range.
+12V		Pass	+12V voltage should be in +12V define range.
+5V		Pass	+5V voltage should be in +6V define range.
Frequency/Voltage Control			
Auto Decect PCI CLK		Pass	Enable/Disable this item should work normally
Spread Spectrum		Pass	All value set should not take any failure.
CPU Host/SRC/PCI Clock		Pass	
Load Fail-Safe Defaults		Pass	Load default fail-safe setting.
Load Optimized Defaults		Pass	Load default optimized setting.
Set Password		Pass	Set or disable user password
Save & Exit Setup		Pass	Save currently BIOS setting and exit BIOS.
Exit Without Saving		Pass	Discard currently change of BIOS setting and exit BIOS.

Model	**EMX-945GSE-A1-DVIR**
Description	**Mini iTX Intel 82945GSE GMCH / ICH7**
PCB version	**1**
BIOS version	**945BAV11.BIN**
CPU Type	**Intel Atom N270 1.6GHz**
Memory type and size	**Kingston DDRII 677 1GB**
Backplane	**N/A**
Power supply	**Seventeam ST-420BKV-03F 420W**
HDD Model/Spec	**Seagate ST380013A**
CD-ROM Model/Spec	**ASUS 52X CD-S520X**
Product Phase	
Produced by	
Test Item	**Basic Function Test**
Problem category	**Function**
Issue date	**2009/1/22**

Test Item		Result	Note
Front Panel LED connector	Power Button	**Pass**	
	RESET Button	**Pass**	
	Power LED	**Pass**	
	HDD LED	**Pass**	
Internal Jumper /Connector check	Clearn CMOS	**Pass**	
	SPDIF	**Pass**	
	CD_IN	**Pass**	
	USB5,6	**Pass**	
	CPU Fan	**Pass**	
	CHA Fan	**Pass**	

Model	**EMX-945GSE-A1-DVIR**
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CPU Type	**Intel Atom N270 1.6GHz**
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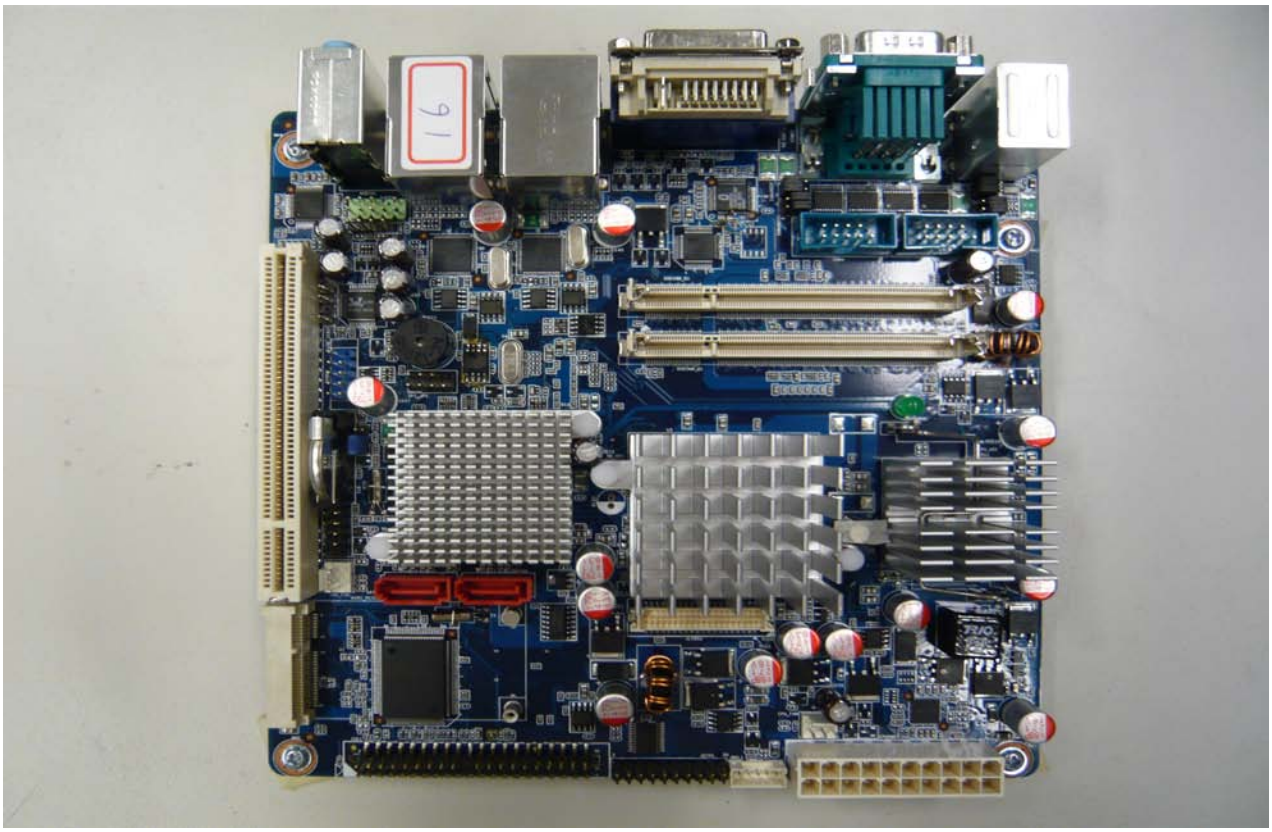
CD-ROM Model/Spec	**ASUS 52X CD-S520X**
Product Phase	
Produced by	
Test Item	**Basic Function Test**
Problem category	**Function**
Issue date	**2009/1/22**

Item		Method	Result	Note
Primary IDE	Master	1.Run passmark Burn in test 15 minutes with all disks 2.Tranmit data 1GB files 1 round from SATA1 to SATA2,	Pass	WD 800JB
	Slave		Pass	ASUS CD-S520B2
SATA port 1			Pass	Seagate ST380815AS
SATA port 2			Pass	Seagate ST380815AS
COM1(RS-232)		Data transmit	Pass	Pcomm 2.2
COM2(RS-232)		Data transmit	Pass	Pcomm 2.2
COM3(RS-232)		Data transmit	Pass	Pcomm 2.2
COM4(RS-232)		Data transmit	Pass	Pcomm 2.2
LAN (RTL8111B)	00190f0003c2	Data transmit	Pass	
	Wake up on LAN	S1	Pass	
		S3	Pass	
		S4	Pass	
		S5	Pass	
	LAN Option ROM	PXE	Pass	
		RPL	NA	
	LED indicator	1000 Green/100 Orange/10 off/ Link Orange	Pass	
	Maximum	800.008Mbps		
	Minimum	17.391Mbps		
	Average	680.356Mbps		
USB1		can use any USB device	Pass	
		Install WinXP /SP2 from USB CD-ROM	Pass	
USB2		can use any USB device	Pass	
USB3		can use any USB device	Pass	
USB4		can use any USB device	Pass	
USB5		can use any USB device	Pass	
USB6		can use any USB device	Pass	
PS/2 Keyboard		Keyboard function	Pass	
PS/2 mouse		mouse function	Pass	
Audio		Line in	Pass	
		MIC	Pass	
		Line out	Pass	
		Rear speaker out	Pass	
		Side speaker out	Pass	
		Center/subwoofer port	Pass	
		AMP OUT	Pass	
CF card	secondary IDE master	1.can boot from CFC ; 2.can read and write CFC	Pass	
DOC-2000		can read/write DOC-2000	NA	
VGA output	CRT	Connect CRT monitor , display function well	Pass	
	DVI	Connect DVI monitor , display function well	Pass	
	LVDS LCD	Connect LVDS monitor , display function well	Pass	AUOG150XG01
	PCI1	LAN Card	Pass	Cqrega CG-LAPPCIGT2
		wake up by LAN from S1, S3, S4, S5	Pass	
		SATA Card	Pass	Uptech SR211
		VGA Card	Pass	Nvidia Riva TNT M64
	AGP 8X	ELSA ATI Radeon 9550	NA	Can't Support AGP Function
		GigabyteADD1 card Chrontel CH7009A-T	NA	Can't Support AGP Function

Test Unit Information	
Model	**EMX-945GSE-A1-DVIR**
Description	**Mini iTX Intel 82945GSE GMCH / ICH7**
PCB version	**1.0**
BIOS version	**945BAV11.BIN**
Product phase	
VGA Chipset	**Intel 82945GSE GMCH IGMA 950**
Audio	**Realtek ALC888**
LAN	**Realtek RTL8111C**
Super IO	**Winbond 83627DHG-A**
DRAM type	**Support DDR2 SO-DIMM up to 2GB 533**
Driver	**Version**
INF	**9.0.0.1008**
VGA	**6.14.10.4864 (14.31.1)**
AC97 CODEC	**5.10.1.6270**
TPM	**2.01.0001.00**
LAN	**5.680.1023.2007**



EMX-945GSE-A1-DVIR Problem Report			Close	Open
Total :	35		35	0
A	23	Major	23	0
B	12	Minor	12	0
C	0	Limitation	0	0
D	0	Don't care	0	0

Verify	OK
Item	Description
C	Compatibility
R	Reliability
F	Function
E	EMC/Safety

No.	Item	Date	Class	Problem	Initiator	Owner	Solution/Countermeasure	Status	Closed Date
2008/10/21_3630-001.BIN									
1	F	2008/10/22	A	IDE CD ROM + IDE HDD, Can't install OS.	Mark	SE/EE	Update BIOS Verstion to T1027.BIN	Close	
2	F	2008/10/22	A	Audio AP圖示和MB IO不相容	Mark	SE/EE	Update BIOS Verstion to T1027.BIN	Close	
3	F	2008/10/22	A	AMP no fucntion.	Mark	EE	Update BIOS Verstion to T1027.BIN	Close	
4	F	2008/10/22	A	CPU Hyper-Threading Disable function fail.	Mark	SE	Update BIOS Verstion to T1027.BIN	Close	
5	R	2008/10/22	A	Room temperature on/off test fail.	Mark	EE		Close	
6	F	2008/10/22	B	開機沒有Be一聲	Mark	SE	Update BIOS Verstion to T1027.BIN	Close	
7	F	2008/10/22	A	S3 wakeup function fail.	Mark	SE/EE	Update BIOS Verstion to T1027.BIN	Close	
8	F	2008/10/22	A	Power LED not flash (S3 Mode)	Mark	SE/EE	Update BIOS Verstion to 3630-003.BIN	Close	
9	F	2008/10/22	A	BIOS setup menu display ripple effect.	Mark	EE	Update BIOS Verstion to 3630-004.BIN	Close	
10	F	2008/10/22	B	CPU can't support L3 Cache, please del the itme.	Mark	SE	Update BIOS Verstion to T1027.BIN	Close	
11	F	2008/10/22	A	Please edit panel type item.	Mark	SE	Update BIOS Verstion to 3630-003.BIN	Close	
12	F	2008/10/22	A	USB KB/MS Wakeup function fail. (S3 Mode)	Mark	SE	Update BIOS Verstion to 3630-004.BIN	Close	
13	F	2008/10/22	A	PS/2 KB/MS Wakeup function fail. (S3 Mode)	Mark	SE	Update BIOS Verstion to T1027.BIN	Close	
14	F	2008/10/23	B	LAN Disabled fail.	Mark	SE	H/W不支援	Close	
15	F	2008/10/23	A	LAN PXE Function fail.	Mark	SE	Update BIOS Verstion to T1027.BIN	Close	
16	F	2008/10/23	B	Please edit H/W Monitor FAN1、FAN2 name.	Mark	SE	Update BIOS Verstion to T1027.BIN	Close	
17	F	2008/10/23	A	CPU Warning temperature function fail.	Mark	SE	Update BIOS Verstion to 3630-006.BIN	Close	
18	F	2008/10/23	A	Shutdown temperature function fail.	Mark	SE	Update BIOS Verstion to 3630-006.BIN	Close	
19	F	2008/10/23	B	Please hide the itme "os select for DRAM > 64MB"	Mark	SE	Update BIOS Verstion to T1027.BIN	Close	
20	F	2008/10/23	B	Please hide the itme "Report no FDD win95"	Mark	SE	Update BIOS Verstion to T1027.BIN	Close	
21	F	2008/10/23	B	沒有上memory，開機沒有警告聲。	Mark	SE	Update BIOS Verstion to T1027.BIN	Close	
22	F	2008/10/23	A	LAN Wakeup function fail. (S3 Mode)	Mark	SE	Update BIOS Verstion to T1027.BIN	Close	
23	F	2008/10/23	A	Mini PCI_E no function.	Mark	SE/EE	Update BIOS Verstion to T1027.BIN	Close	
24	R	2008/10/23	A	High temperature 65℃, Memory Burn in test fail.	Mark	EE	目前用512MB*2 燒機沒有發現問題	Close	
25	C	2008/10/23	A	上兩支DDR II 800 2GB，系統只抓到一支Memory，單支2GB正常。	Mark	SE/EE	945GSE只支援1GB*2	Close	
2008/10/27_T1027.BIN									
26	F	2008/10/27	B	LAN PXE 沒有Disabled/Enadbled item	Mark	SE	Update BIOS Verstion to 3630-003.BIN	Close	
27	F	2008/10/27	A	TPM Function Fail, 安裝驅動程式後重開機，系統管理員內會有驚嘆號。(Driver Verstion 10/10/2005, 1.80.0002.00)	Mark	SE/EE	Update TPM Driver verstion to 03/13/2007,2.00.0000.00	Close	
28	F	2008/10/27	B	Please del COM 2 IR function and item.	Mark	SE	Update BIOS Verstion to 3630-003.BIN	Close	
29	F	2008/10/27	A	Please del AC97 item, ALC888不支援AC97 Function.	Mark	SE	Update BIOS Verstion to T1103_00.BIN	Close	
30	F	2008/10/27	B	Please cheng COM3 (288) / COM4(289) name to 2E8 / 3E8.	Mark	SE	Update BIOS Verstion to 3630-003.BIN	Close	
31	F	2008/10/27	A	Watch Function fail.	Mark	SE	Update BIOS Verstion to 3630-003.BIN	Close	
32	F	2008/10/27	B	在要進入BIOS設定畫面，有時候系統會當機。	Mark	SE	Update BIOS Verstion to T1103_00.BIN	Close	
33	F	2008/10/27	B	TPM Disabled function fail.	Mark	SE	Update BIOS Verstion to 3630-005.BIN	Close	
34	F	2008/10/27	A	Resume by Alarm function fail.	Mark	SE	Update BIOS Verstion to 3630-004.BIN	Close	
35	F	2008/10/28	A	Select the item " Load Fail-Safe Defaults " 系統會當機，無法進入OS	Mark	SE	Update BIOS Verstion to T1103_00.BIN	Close	
36	F	2008/10/28	B	DIO Function fail.	Mark	SE		Close	
37	F	2008/10/28	A	Panel Function fail.	Mark	SE	Update BIOS Verstion to T1103_00.BIN	Close	
38	F	2008/10/29	B	Please del the item, power on function \ "keyboard 98"	Mark	SE	Update BIOS Verstion to T1103_00.BIN	Close	
39	F	2008/10/29	B	用T1027安裝的OS在使用一段時間後，會出現無法進入XP的現象，系統會一直重開機，換成舊版的BIOS就可以進入OS了。	Mark	SE	目前驗證的結果，可能是Flash tool在更新BIOS時，沒有更新完全。	Close	
40	F	2008/10/29	A	S1 Wakeup function fail, system crash.	Mark	SE	Update BIOS Verstion to 3630-005.BIN	Close	
41	C	2008/10/29	A	IDE HDD + CF card 無法進入OS，系統會重開機。	Mark	SE	目前驗證的結果，可能是開機型病毒造成的問題。	Close	
42	F	2008/10/30	B	請修改VGA輸出順序，第一優先請改成Onboard VGA out。	Mark	SE		Close	
2008/10/31_3630-004.BIN									
43	F	2008/10/31	B	Please open Audio controller disabled / enadbled item.	Mark	SE	Update BIOS Verstion to 3630-005.BIN	Close	
44	F	2008/10/31	A	LVDS Function fail.	Mark	SE	Update BIOS Verstion to T1103_00.BIN T1103_00.BIN	Close	
45	R	2008/11/3	A	CPU Therature over SPEC, (CPU SPEC TJ 90℃)	Mark	EE		Close	
46	R	2008/11/5	A	同時上兩個SATA HDD, 無法進入Win2K	Mark	SE	目前驗證的結果，可能是開機型病毒造成的問題。	Close	
47	R	2008/11/6	A	(-5℃) Low Temperature on/off fail.	Mark	SE/EE	Power Button加上一個1uF電容到地	Close	
2008/11/06_3630-006.BIN									
48	F	2008/11/6	B	LVDS背光過亮, (AUO 17" 24Bit*2)	Mark	SE		Open	
49	F	2008/11/12	B	VGA+DVI install VGA Driver, system reboot montion screen resolution and color quality show 640*480 4Bit.	Mark	SE		Open	
50	F	2008/11/12	B	USB Boot on/off test fail,	Mark	SE	Update BIOS Verstion to 3630-007.BIN	Close	
2008/11/06_3630-007.BIN									
51	F	2008/12/2	B	PCI VGA Boot to OS fail, BIOS Select Init display first to PCI solt, boot to os fail.	Mark	SE		Open	
945GSE Ver:1.0 (945BAV11.BIN)									
52	F	2008/12/29	B	CPU Warning Disabled function fail. CPU Temperature over 75℃ boot to OS, CPU Warning function open.	Mark	SE		Open	